1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

Young children sleep whenever they are tired. Children from about 6 years of age onward average about 8 hours of sleep each night. Fires are occasionally kept burning late into the night when mosquitoes are troublesome.

Men micturate in a standing position; women squat on the heels or stand with knees bent. Both sexes defecate in a position squatting on both heels.

Cutting habits vary according to the instrument employed. In general, a knife is moved away from the body, a native cutting or scraping instrument toward the body. Adzing is, of course, toward the body.

Heavy weights, such as canoes, are lifted from the ground with the arms in front of the body and carried just clear of the ground. A house roof is carried on the shoulders of a number of men who get inside the roof while it is on the ground and hoist it onto their shoulders. A few coconuts are carried in the hands, with or without a basket; a large number are balanced on the shoulder. Many coconuts are carried on a rough carrying pole, weighted at both ends and balanced at its middle point on the shoulder. The right shoulder is generally preferred. Women generally carry weights balanced on the head, using a pad made of a bunch of leaves placed between the head and the burden.

Climbing coconut trees and coconut husking are described on page 86.

Swimming is naturally acquired behavior and is not taught to children. Pukapukans are not great swimmers or divers, but use the sea mostly for bathing, when they run or wade from the beach and then suddenly duck. Children are in the water a great deal; they play at water splashing, surface diving, and underwater swimming games. Adults rarely play swimming games. In diving for *Tridacna* shellfish, adults dive from the surface by elevating the buttocks and depressing the head.

Casual observation indicates that left-handedness (*lima mayui*) is common in both children and adults. This was observed in adults in the use of implements and in the handling of darts in games, in children when dancing.

The toes are used extensively for picking up objects from the ground and for holding objects when both hands are engaged and when purchase is required.

Both men and women pole and paddle canoes today. The individual poles a canoe sitting, standing on the floor of the canoe, or standing with one foot on each gunwale. Paddling is done on either side of the canoe with equal ease. The paddle is grasped with both hands, fingers pointing to the front, thumbs to the rear. It is unusual for a canoe crew to sing or chant in rhythm to the paddling. The paddle is plunged vertically into the water and the stroke is fore and aft. Two types of strokes are used: *alo atu pole* is a long, even, powerful stroke with the full stretch and strength of arms and shoulders, dipping the paddle blade deep into the water, and used for long distances when consistent power is required; *alo tuinga* is a short, quick, shallow stroke,

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

226 482 used as live bait, he places the basket in a little hollow scooped out in the sand, half submerged in sea water. In spearing, torching, clubbing, and the modern method of iron spear catapulting, fish caught are tied together with coconut fiber (*kalava*) passed through the gills. The fish are laid on a convenient coral head when the fisherman moves or dives. To carry them greater distances, he strings them around the waist to make a malo of fish (*malo ika*) or loops them over the arm. Chants which celebrate the winning of fishing contests make frequent reference to the men coming home with strings of fish around head, waist, and shoulders.

226 The following list gives several common terms employed in fishing:

Tukunaka or wakayeka: to pay out a line.
Wawaki: to pull in a line (general); to pull in a short line with overhand strokes.
Tupe or langa: to pull in a long line with long overarm strokes.
Totoi: to take the strain on a line when a fish is fighting and cannot be pulled in.
Wakaoatala: to jerk a line to disengage the sinker.
Tae: to net fish in the air or to make an outward sweep of the net.
Toli: to make an inward sweep of the net to scoop fish into the canoe.
Yoka or momono: to plunge the net into the water with a downward sweep in order to net a fish.

226 A lazy man who does not go fishing is termed, in ridicule, *atua wawine* 626 (female god), because he seems more concerned with the sphere of activities presided over by female gods who never interfere with the fishing pursuits of men. Another expressive phrase used to describe a bad fisherman is: "Ia koe i te mauuu kava" (You have a bitter bait).

226 In general, bad luck in fishing is attributable to the breaking of tapus or 777 to the domestic circumstances of the fisherman. If a wife commits adultery while her husband is out fishing, he will have bad luck; formerly he might repair his luck by prayers to his god. If a man quarrels with his wife before fishing or if he goes fishing while there is a corpse in his house, he will be unsuccessful (*ka kaya*).

226 Before going fishing in former days a man was careful to pray to his 782 god or ask the priest of his paternal lineage to pray to the lineage gods for success in his undertaking. When a man went fishing for special fish, 776 controlled by certain gods, he always prayed to these gods and again to the gods that control the winds. As his canoe passed the place where the sacred 778 clearing (*yionga*) of an ancestor god was visible, the fisherman stood up in his canoe and prayed to this god that he might procure plenty of fish and lose none of his pearl-shell hooks. Canoes going deep-sea fishing off the western side of the atoll, especially when trolling for bonito, always stopped 226 opposite the stone of the god, Malokitelangi, near the western reef channel 782 to leave on this stone a gift for the god—a malo, some sennit, or a fish-hook. The gift (*uakaietoa*) was later removed from the stone by the priest

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

248 In husking (*yoka*), a nut is brought down on the point of the stick so that the line of penetration is through one of the three longitudinal ridges (*pauuga*) in a horizontal plane. A longitudinal section of husk is removed by levering the nut outward and downward from the stick, and the process of impaling and levering is continued until all the husk is removed. When it is desired to preserve the edible husk (*mukomuko*) much care is taken and the husk is torn off (*yashii*) gently rather than levered off in large sections.

Drinking nuts are husked completely smooth (*yoka molemple*) or so as to leave a longitudinal strip of husk attached to each nut (*yoka ma te kayasi*). A thin length of fiber is raised from this strip. Pairs of nuts are tied together (*kayasi*) by these fibers, making it possible to throw them over a rough carrying pole (*amonga*) of coconut midrib and thus conveniently carry (*amo*) them from the bush to the home.

[482]

245 A heap of *yakali* nuts gathered together from the ground where they have fallen is termed *patunga* (pile), whether it is a large or a small heap. Reference to these piles is in terms of the number of nuts gathered, whether 100, 200, or more. Thus a man asks about a pile of nuts, "Na ai te lau nei?" (Whose hundred is this?).

264 The husked drinking nut is opened by piercing or by cracking:

The eye (*mata*), which is in the widest of the spaces between the three longitudinal ridges on the surface of the nut and which is filled with soft tissue through which the nut sprouts, is pierced (*take*) with a coconut leaflet midrib or with the pointed end of the *kalohalo* implement. To open the nut by cracking, it is held in the hand and the shell at the base (*malimali*) is cracked against a stone. When done by a skillful hand, the base of the nut cracks evenly all around and is lifted with the fingers without loss of the liquid. Today nuts are more often cracked by three sharp blows with a knife blade on the base. After the liquid is drunk, the nut is broken open (*wawa*) by knocking it against a stone. The soft flesh is scooped out with the thumb and fingers; harder flesh that does not yield readily to the pressure of the thumb is scraped out (*mukamuka*) with a scraper (*kalohalo*).

TALO

244 The following named varieties of talo are indigenous to Pukapuka:
137 *mawalawala, wakawata, wakena, kele, pongi* (slow-growing species), *pelena,*
177 *talaki, kaleles, nawunawa* (slow-growing species), *kula, kiekie, uli, koyikoyi.* All are grown on Pukapuka today save *talo koyikoyi* which was practically all destroyed by the tidal wave of 1914. Introduced varieties are named after the land of importation; as talo Tawiti (Tahiti), talo Polapola (Borabora), talo Niue, and so on.

244 The origin of talo and *pulaka* in the world is recounted in the story of
773 Maui (1). Some informants incline to the belief that only one variety of talo was introduced by the gods in the first place and that all other varieties sprang from this one by some power of the gods—a rationalization perhaps of the fact that strains of talo are so mixed today that it is hard to grow
214 one true to type. This causes trouble on talo bed boundaries. One woman
423 plants one variety on her boundary, and her neighbor plants another variety on her side of the boundary, hoping thus to keep the boundary between the

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

replanted, and the corms themselves buried in the ground and left for the gods. The workers place the corms in their baskets which they carry to the village balanced on their heads (*taku ki luuga o te niu*).

There is no rotation of talo with other plants nor any system for leaving lands fallow between planting. At the time of greatest famine after the seismic wave, cultivation was alternated between reserve land and private talo beds to ensure that each bed of talo was put to best use and that the corms were allowed to mature properly.

Cultivation further consists in weeding (*langai i te vayavaya ai*) and fertilizing (*wahalepo* or *tilikao*) the talo beds:

> The gardens are weeded by women about once each month during the early stages of growth. Weeds are trampled into the soil or allowed to rot on top. When six or seven leaves are fully unfurled, the beds are fertilized with *pukawa* leaves, *lau kotawa* fern, grasses, coconut leaves, or any other vegetable matter. The fern leaves are cut off at the base of the plant and wrapped for transport in coconut-leaf mats (*palapala*). All the subsidiary branches are cut from the *pukawa* tree, and the leaves stripped by hand from each branch and placed in baskets. The branches are replanted or dried and used as firewood, canoe poles, etc. The vegetable matter is taken to the garden and spread over the ground around each talo plant. Some is trampled in, but the larger vegetable matter is allowed to rot on top. This is mainly women's work, but the men sometimes assist, especially in the cutting down of the *pukawa* branches. Normally there are about two crops of talo from each bed during each twelve-month period. This means fertilizing each year about two months after each planting.

In the old days a little dryland talo (*kupe*) was cultivated. Killed by the tidal wave, it has not been replanted.

At least eighteen stages in the growth of talo or *pulaka* are recognized:

> Tuki te tingapuka: the cutting is planted.
> Po lua, kua tupu te aka o te wawa: 2d day, the roots grow.
> Po tolu, kua velo te lito: 3d day, the young leaves begin to protrude from the base of the innermost petiole.
> Po lima, kua loa te fito o te lau: 5th day, the young leaves grow tall.
> Po angauho, kua velo te lito woa: 10th day, new petioles and leaves shoot up.
> Taeyao atu, kua lua lau: the next day, there are two petioles and leaves.
> Kua velo mai te tolu o te lito: (15th day) the third petiole and leaf start up.
> Kua lua tolu: (20th day) there are now three petioles well grown.
> Kua lua va: (22d day) there are four petioles. This is the time to cultivate and fertilize the young talo.
> Kua lua lima: (25th day) there are five petioles growing.
> Kua wahalaungavali: (29th day) the leaves sway freely in the wind.
> Kua tuaki te lau lima, lua ayi, lua tupu mai oki te lau luaa, lua ono lau talo, lua ola: (30th day) petioles spread and darken in color, the leaf grows large, there are six main leaves, the plant flourishes.
> Kua ulaulo ki luuga: (35th day) the petioles grow high.
> Kua ola loa ki luuga: (45th day) the petioles grow high indeed.
> Kua taku te niu: (2d month) the head is left, the petioles and leaves stop growing, and the corm begins to grow.
> Kua matapu te wawa: (3d month) the corm is two finger-joints long.
> Oho ki te vavaaga o te wawa: (4th and 5th months) the time when the corm grows rapidly.
> Kua kivi, kua wawaka: (6th and 7th months) the corm is mature and large.

1: Beaglehole & Beaglehole E-5 (1934-5) 1938 Pukapuka

372 The origin of fire is told in two stories:

In the very beginning of time, fire was procured for the Pukapukans by a man named Mauikatoto, a medicine man who was visited by his god in a dream and instructed how to make fire with the hearth and rubbing stick.* Mauikatoto made fire according to the directions of his god. The *koka* bird (ghost tern) was the assistant who held the far end of the hearth stick. When Mauikatoto had made fire, the tern flew up into the air and circled around him. Mauikatoto hit the tern over the eyes with the hot rubbing stick, making the black marks over the eyes which the *akiaki* bird (a white tern with a black semicircle around the upper part of each eye) carries to this day. A second version says that Mauikatoto's hands were covered with ashes, and as he grasped at the tern, the ashes marked the bird over the eyes. The following part of an old chant is quoted in support of this origin of fire:

Tutu ia i te awi na Mauikatoto,	Flamed the fire (made) by Mauikatoto,
E polia e te kakavai,	Hearth holder the *koka* bird,
Naku kotia te vaimata o te akiaki.	I striped the outer corners of the eye of the *akiaki* bird.

The seismic wave of about 300 years ago was so disastrous that all fire was extinguished. Another legend tells how fire was brought back to Pukapuka after this catastrophe:

The god, Ngaliyeyeu, brought fire to the priest, Te Ule. There was no fire in this land. Ngaliyeyeu brought it to Te Ule. Then fire was known. At that time there were no fires belonging to the priests of the gods. Earlier they had lit their fires at the fire of Te Ule. The god of Te Ule, Ngaliyeyeu, became angry. The god said to him, "Put out your fire, that the priests of the gods won't come here to take fire to cook their fish. Leave them to eat their fish only raw. If they are without fire to cook, they won't live. They have been boasting, they fancied that the fire belonged to them." Te Ule put his fire out. The priests became frenzied. They went to Te Ule to seek fire, "O Te Ule, where is the fire?" Te Ule answered, "There is no fire." The priests of the gods ate only raw food. Te Ule got his fish, rubbed his fire till it burned, grilled his fish till cooked, put out the fire. Such was his practice.

This is the technique by which the god succeeded in getting fire: a stick, *puapua*. Split the *puapua*. Cut the one portion into a very small piece. The name of the small piece is *kaumati*. The other half of the stick, place beneath. Shave the part on top of the bark of the stick. Place the *kaumati* on this place, the name of which is *ikanga*. Then rub. There are two types of rubbing; short, rapid strokes (*patumata*) the one, longer, slow strokes (*makauti*) the other. Arrived at another, later time, Te Ule told the technique for making fire.

372 313 462 For firewood, which is fairly scarce, many parts of the coconut tree are utilized: flower sheath, dry flower stems, small dry coconut shells, and occasionally very dry coconut husks. Firewood is also obtained from other trees, dead branches of which are broken from the trunk or picked up from the ground and broken by beating against a tree trunk or stone. Wood obtained from the reserves is placed in coconut mats, tied with coconut fibers in a bundle, and carried home on top of the head. Gathering firewood is 372 women's work. Today, as formerly, fresh fire is made only if it is im-

*In another version of the story, Mauikatoto is said to be a god, but apparently was related to one of the three Maui brothers. Informants giving this version could not remember how Mauikatoto procured fire in the first instance.

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

in scraping shell (*eiuiyi*, *Nerita polita*) a little to left of apical whorl; four lashing turns of fine three-ply sennit braid (3) pass from handle through shell (2) where commencement end is buried, lashing continues with 16 transverse turns around distal end of handle (4); finishing of lashing buried beneath last turns; at proximal end a thin cord (7) of twisted *uso* fiber is attached so that the scraper may be hung up; two notches (5, 6) cut in handle; the two plies of *uso* cord lapped about notch (5) and fastened with figure-of-eight turns of fine, two-ply twisted sennit which pass around handle and between two notches; free end of sennit seised (8) around *uso* cord and finishing end buried. *b*, coconut stand grater (*tuai*) (C8106): clam-shell grater (1) mounted on wooden stand (2) cut from solid block of *uetau* wood; horizontal base 1 foot 10¾ inches long, 4½ inches wide at proximal end, and 2 inches thick; two triangular notches cut into proximal end said to be old form of ornament; oblique arm (3) 7 inches long, 3 inches wide, and 2 inches thick; angle (4) at which arm leaves horizontal base obtuse, under side (5) shaped and rounded off slightly; distal end of oblique arm (6) slotted for depth of 2 inches and concave so that convex outer surface of shell grater fits securely against arm; a piece of cork (7) fitted against inner concave surface of shell grater; lashing of three-ply braided sennit (8) applied over cork and around arm; lashing consists of 24 turns with buried commencement, and under normal conditions finishing end would also be buried, but in this grater free end is not cut off flush with transverse turns but is knotted and left free (9) so that grater may be hung up by free end. *c*, back rest (*take*) cut from solid block of *taukonuu* wood (C8161): 1, four-sided stand 8¾ inches high at back and 5¾ inches high at front, sides about 2½ inches wide; 2, main backrest, surface of which has slight transverse and longitudinal concavity, 2 feet 3½ inches long, 9½ inches wide, and ¾ inch thick at edges; continued by horizontal extension rest (3) 4 inches long, ¾ inch thick at sides; 4, end resting on ground has bevel 1½ inches wide; 5, under surfaces of horizontal extension (3) shaped obliquely, coming together in short mesial longitudinal ridge 1¾ inches high. *d*, wooden headrest (*alunga lakau*) (C8184); roughly cut from single block of *tamanu* wood: 1, pillow section 1 foot 7 inches long, 5 inches wide, and 2¾ inches thick; 2, four legs, each 2½ inches high, 3¾ inches wide, and 2 inches thick; 3, slight flare at base of right front leg due to unskilled workmanship and not to design.

Furnishings of Pukapukan houses today include little that is modern. Occasionally one sees a European chair. Most houses have wooden chests or suitcases in which clothes are kept. European mosquito nets are in common use, and several houses proudly display antique sewing machines. Beyond these few articles and bundles of mats, the house interiors are generally quite bare.

FOOD UTENSILS

To harvest and husk coconuts, the climbing bandage (p. 146), husking stick, and carrying pole are used. The husking stick (*koyo*, C8049) of *ngangie* wood is driven into the ground for two thirds of its length. Informants were sure that the short stick was the only type used formerly, the worker kneeling or squatting on the ground to husk. Today, a much longer stick is generally used, the husker standing and bending over the stick. The carrying pole (*oeo*) is a convenient length of coconut leaf midrib on which a stick is made at each end. Pairs of nuts are slung over the pole, the

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

fiber joining end pairs resting in these nicks. The carrying pole is discarded when the worker returns to the village. Shaped, permanent carrying poles are never used.

A spatula-shaped implement (*kalokalo taumaya*, C8038) of *ngangie* wood is used to scrape out the soft flesh of the drinking nut. One end has a sharp point used for opening the nut by piercing the soft eye. The other end is broad and is used for scraping out the flesh after the liquid has been drunk. The implement is a combination of scraper and spoon.

A hand grater (*kalokalo ni mata*, C8091) is used for grating the flesh of the coconut to make the coconut food called *niu kalokalo*. The blade is the *uyaloto* section of a pearl shell. The nacreous inner surface of the shell forms the front surface (*aloalo*) of the blade, the black outer surface forms the back (*tua*) of the blade. The teeth of the serrated edge of the blade are termed *mata*. The blade is fixed to the handle of *ngangie* wood by 17 transverse turns of three-ply sennit, with buried commencement and finishing ends.

A stand grater (*tusi*) is used to grate the flesh of the mature coconut to make coconut cream. No shell graters (fig.12,*b*) are in use on the atoll today, but the stand-grater principle is retained in the use of a toothed metal grater attached to a wooden arm which is fastened to a box. To use the shell grater, the worker sat on the horizontal base. Holding the half coconut with both hands, she worked the flesh against the grater teeth with a downward rotary movement. The gratings fell onto a coconut mat on which the grater rested.

A coconut cream wringer (*teaunga*) is made from the husks of the coconut at the *niu mata* stage after burial in beach sand to macerate the interfibrous material. The husks are beaten with a stick to remove the decayed parts, washed in water, and are ready for use when dry.

Food packages for transporting talo pudding or fish are made by placing the food on the platter called *loulou ava loloi* and then folding back the two tails (*wakapona*) of its finishing edge over the food; the tails are pushed through the plaiting just below the midrib commencement edge, their free ends tied in a reef knot to make a compact package.

Water containers (*wowongi*; fig.13,*a*) are made from especially large coconut shells. The husk is removed and the shell opened at the soft eye. The liquid is poured off and the shell filled with salt water. When the flesh has rotted, it is removed through the soft hole with a special scraper called *vulayi* or *vulu wowongi* (fig.12,*s*). A handle of sennit is tied to the netting on either side and the containers hung in pairs (*wawai*) to the rafters of the cook house. No containers were seen in use, their place being taken by buckets or empty cans.